

Defectobook® DIO1000 Portable Ultrasonic Flaw Detector

DEFECTOBOOK® DIO1000 is the newest instrument fully developed and designed by company STARMANS Electronics Ltd. New generation of electronic components, fast microprocessors and our long-term experience in manufacturing of ultrasonic instruments enabled us to develop really advanced revolutionary ultrasonic flaw detector DEFECTOBOOK® DIO1000 with the best parameters and functions. We create it very slim, light and ergonomic to be suitable for your any inspection business. We used up-to-date screen with high resolution and high luminance to achieve the excellent visibility on the direct sunlight. The fast and direct access menu makes you to operate the instrument very easily. No more long training and complicated manuals. The large capacity memory enables you to save as many A-scans as you wish and kilometers of B-scan. The DEFECTOBOOK® DIO1000 is capable to work with conventional contact ultrasonic transducers, EMAT generators for non-contact ultrasonic and low frequency transducers for through-transmission testing.



Technical specifications:

Display:

Color TFT sunlight, 1024 pixels (W) X 768 pixels (H)

Display Characteristics:

High resolution screen with brightness adjustment
Excellent visibility on direct sunlight

Display Update Rate:

Minimum 60 Hz

True Sampling Rate:

200 MHz, 12-bit

Gain Control:

110 dB Max and reference gain level control in 6 dB, 1 dB, 0.5 dB and 0.1 dB selectable steps

Auto Transducer Calibration: Automated calibration of transducer, zero offset and/or velocity

Reject:

0 % to 80 % of full scale in 1 % increments

Units:

English, metric, or microseconds

Material Velocity:

From 1 to 19 999 m/s in steel

Range:

Standard 1 mm to 140 000 mm

Refracted Angle:

Fixed settings of 0°, 30°, 45°, 60°, 70°, or variable from 1° to 90° in 0.1° steps for calculations

Peak Memory:

Pulse repetition rate up to 20 kHz and peak envelope of A-Scan display

Peak Hold:

Freezes Peak Memory echo envelope for recorded waveform comparison with live A-Scan

Pulsar Type, User Selectable:

Tunable square wave, negative spike excitation, burst

Pulsar Energy:

Adjustable from 75 V to 275 V

Damping:

42, 51, 180, and 1000 Ohms

Rectification:

Full Wave, Half Wave Positive or Negative rectified, and RF waveform

Analog Bandwidth:

0.5 / 3,5 MHz to 6...200 MHz

Gate Monitors:

Four independent flaw gates controllable over entire sweep range:

Floating gate,

Interface gate,

Measuring gate – relative, absolute, amplitude, time

Back-wall echo attenuator

Filters:

Broadband, Narrowband, or Custom Selectable

Low and High Pass Filters – 1

MHz, 2 MHz, 2.25 MHz, 4 MHz, 5 MHz, 10 MHz

Test Modes:

Pulse Echo, Dual, or Through transmission

Alarms:

Selectable threshold positive/negative or minimum depth modes

Operating Temperature:

-10 °C to 50 °C

Storage Temperature:

-40 °C to 70 °C

Power Requirements:

AC Mains: 100-120 V AC, 200-240 V AC, 50-60 Hz

Battery:

Built-in and external rechargeable Lilon battery pack rated at 3.6 V at 16 Ah

Battery Operating Time:

11 hours, depending on display brightness

Transducer Cable Connectors:

Lemo®

Keypad:

Graphic symbols, International

Languages:

Selectable in menu, user-defined custom language

Communications Port:

Hi-speed USB interfacing with PC

Optional Communication ports:

RS232

Ethernet

Wireless Ethernet

Bluetooth

Memory:

4 – 16 GB (4 GB is standard, more capacity is optional)

B-scan input:

Encoder, A, B – pulses, start, TTL 5 V, Encoder supply – switchable 5V

B-scan memory:

10 km of B-scan, 1 mm resolution

A-scan memory:

50 000 A-scans (including settings)

High Speed Parallel and TTL Port: Alarm outputs, trigger in/out control

Analog Output:

Selectable voltage output of depth or amplitude data

Dimensions:

224×188×37 mm

Display dimensions:

99×130 mm

Weight:

0.74 Kg without battery + 0.54 kg battery

PC Requirements:

PC running minimum Microsoft® Windows® Vista®, Microsoft® Windows® XP®, Microsoft Windows 2000®,

Warranty:

Two years warranty, battery not included. Optional three years warranty available

DIO1000 LF

Optional Low Frequency Version

The DIO1000 Low Frequency version is suited for testing materials with high attenuation of ultrasonic waves, as concrete, plastic materials with enhanced attenuation, constructions and coarse-grained materials in general. The principal feature of this equipment is its low operation frequency from 20 kHz to 1 MHz.